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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,500	08/05/2003	Marie B. O'Regan	CL2332USNA	8660

23906 7590 05/23/2006

E I DU PONT DE NEMOURS AND COMPANY
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4417 LANCASTER PIKE
WILMINGTON, DE 19805

EXAMINER

DONG, DALEI

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 05/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/634,500

Applicant(s)

O'REGAN ET AL.

Examiner

Dalei Dong

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/1/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the claimed laminated polymer is not provided in a drawing. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 6-8, 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,416,622 to Engfer.

Regarding to claim 1, Engfer teaches in Figures 2, 4 and 6, a laminated polymer comprised of at least two layers (12 and 14) of transparent polymer (see column 5, lines 1-6) with adjacent polymer layers separated by a transparent solid non-glass interlayer (20, 22 and 24) or an air cavity, wherein at least one transparent non-glass interlayer (20, 22 and 24) or the air cavity contains a device comprised of at least one element selected

from the group consisting of solid state lighting, heat sensors, light sensors, pressure sensors, thin film capacitance sensors, photovoltaic cells, thin film batteries, liquid crystal display films, suspended particle device films, and transparent electrical conductors (see column 4, lines 49-68).

Regarding to claim 2, Engfer discloses in Figures 2, 4 and 6, the two layers of transparent polymer (12 and 14) separated by a transparent solid non-glass interlayer (20, 22 and 24).

Regarding to claim 3, Engfer discloses in Figures 2, 4 and 6, the device is comprised of solid state lighting (see column 4, lines 54-68).

Regarding to claim 4, Engfer discloses in Figures 2, 4 and 6, the solid state lighting is in the form of at least one light emitting diode (the combination of the layers 20, 22 and 24 forms the light emitting diode).

Regarding to claim 6, Engfer discloses in Figures 2, 4 and 6, the solid state lighting is in the form of an electroluminescent film (see column 4, lines 54-68).

Regarding to claim 7, Engfer discloses in Figures 2, 4 and 6, the device is further comprised of transparent electrical conductors (20 and 22, see column 4, lines 58-68) to provide means to apply an activating voltage to the solid state lighting.

Regarding to claim 8, Engfer discloses in Figures 2, 4 and 6, the transparent electrical conductors (20 and 22) are indium tin oxide films (see column 4, lines 58-62).

Regarding to claim 13, Engfer discloses in Figures 2, 4 and 6, the laminated polymer is flexible (the polymer taught by Engfer, i.e. poly(methylmethacrylate), have certain degree of flexibility).

Regarding to claim 14, Engfer discloses in Figures 2, 4 and 6, the solid state lighting is in the form of at least one light emitting diode (the combination of the layers 20, 22 and 24 forms the light emitting diode).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,416,622 to Engfer in view of 5,969,475 to Friend.

Regarding to claim 5, Engfer teaches in Figures 2, 4 and 6, a laminated polymer comprised of at least two layers (12 and 14) of transparent polymer (see column 5, lines

1-6) with adjacent polymer layers separated by a transparent solid non-glass interlayer (20, 22 and 24) or an air cavity, wherein at least one transparent non-glass interlayer (20, 22 and 24) or the air cavity contains a device comprised of at least one element selected from the group consisting of solid state lighting, heat sensors, light sensors, pressure sensors, thin film capacitance sensors, photovoltaic cells, thin film batteries, liquid crystal display films, suspended particle device films, and transparent electrical conductors (see column 4, lines 49-68).

However, Engfer does not specifically disclose the light emitting diode is an organic light emitting diode.

Friend teaches that an organic light emitting diode is old and well known in the art (see column 1, lines 34-43) for the purpose of enhancing the emission color and achieving the desired wavelength.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the old and well known organic light emitting element of Friend for the laminated polymer of Engfer in order to enhance the emission color and achieve the desired wavelength.

Regarding to claim 15, Friend teaches that an organic light emitting diode is old and well known in the art (see column 1, lines 34-43) and the motivation to combine is the same as above.

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6. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,416,622 to Engfer in view of U.S. Patent No. 5,803,579 to Turnbull.

Regarding to claim 9, Engfer teaches in Figures 2, 4 and 6, a laminated polymer comprised of at least two layers (12 and 14) of transparent polymer (see column 5, lines 1-6) with adjacent polymer layers separated by a transparent solid non-glass interlayer (20, 22 and 24) or an air cavity, wherein at least one transparent non-glass interlayer (20, 22 and 24) or the air cavity contains a device comprised of at least one element selected from the group consisting of solid state lighting, heat sensors, light sensors, pressure sensors, thin film capacitance sensors, photovoltaic cells, thin film batteries, liquid crystal display films, suspended particle device films, and transparent electrical conductors (see column 4, lines 49-68).

However, Engfer does not specifically disclose a microprocessor chip that is programmed to control the solid state lighting.

It is old and well known in the art to utilize a microprocessor chip to control the solid state lighting. Turnbull teaches the use of microprocessor to control the solid state lighting device (see column 30, lines 33-50).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the old and well known microprocessor chip of Turnbull for the laminated polymer of Engfer in order to effectively control the solid state light emitting device.

Regarding to claim 10, the method of using the microprocessor chip is a recitation with respect to the manner in which a claimed apparatus is intended to be employed and it does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Regarding to claim 11, it is old and well known in the art to utilize a microprocessor chip to control the solid state lighting. Turnbull teaches the use of microprocessor to control the solid state lighting device (see column 30, lines 33-50) and the motivation to combine is the same as above.

Regarding to claim 12, the method of using the microprocessor chip is a recitation with respect to the manner in which a claimed apparatus is intended to be employed and it does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art are cited to further show the state of the art of composition of a laminated polymer.

U.S. Patent No. 4,753,717 to Mental.

U.S. Patent No. 5,583,394 to Burbank.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (571)272-2370. The examiner can normally be reached on 8 A.M. to 5 P.M..

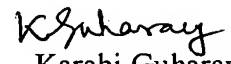
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



D.D.

May 16, 2006


Karabi Guharay
Primary Examiner
Art Unit 2879